

Functional Template - Quality Management Report

1.0 Overview

Business Context and Application Overview

Provide an overview of the app (e.g Domain, key processes, purpose of the app, etc)

The BW QM - Quality Management application regroupes all the reports that are based on QM module from SAP and more particularly :

- Quality Results
- Statistical extraction for Minitab

Application User Profile

Describe the key User profiles that exist for the application.

General role/Viewer role:

Approver role:

Target Users:

As examples: Controllers / Accountants

VERSION	DATE	MODIFIED BY	DESCRIPTION
0.01	12/05/2023	Abidemi Raji	Initial draft

Application Type

Data Product Type

☐ Dashboard
☐ Report
☐ Advanced analytics
☐ AI
☐ Others <specify which one>

Technologies

☐ BW
☐ Tableau
☐ QlikSense
☐ Talend
☐ Dataiku
☐ Others <specify which one>

Data Sources

Note: list of all applications and various environment

☒ SAP PF1 (Production environment)
☒ SAP WP1
☐ SAP PI1
☐ BW (versions)
☐ iCare CRM
☐ CORE CRM
☐ Others <specify the name of the source>

2.0 Business Process

Capture the business process that the application supports . This can be describe through a process diagram or a business capability model

3.0 Application Feature Overview

Information about the existent Workbooks and the respective BW queries.

Core Queries	Core Workbooks
Search Folders View Role Q - Quality Management Brazil In development BW - Analytical time (Core Query) BW - QM Lead Time (Core Query) BW - QM Notification Items (Core Query) BW - QM Notification Tasks (Core Query) BW - QM Results - Column (Core Query) BW - QM Results (Core Query) BW - QM Results for maintenance PM (Core Query) BW - QM Statistics (Core Query) BW - Quality Results for Deliveries (Core Query) BW - Quality Results for Shipment (Core Query) Technical Name ZR_RCS_CA_M14 0000002213 0000002572 BW_QRY_ODS_QM09_0001 BW_QRY_ODS_QM09_0003 BW_QRY_ODS_QM05_0002 BW_QRY_ODS_QM02_0001 BW_QRY_ODS_QM09_0005 BW_QRY_ODS_QM09_0004 RCS_QRY_ODS_QM09_0007 BW_QRY_ODS_QM09_0002 BW_QRY_MPR_QM001_0001 BW_QRY_IFS_QMTR_0001	Search Folders View Role Q - Quality Management Back-up 23/07 Documentation and Core queries Etudes In development North America Novacare Polysamide BW - CPI Tool for EP (Core Workbook) BW - MiniCus_VB (Core Workbook) BW - MiniTab_VB (Core Workbook) BW - QM Results for maintenance PM (Core Workbook) BW - Quality Results for Shipment (Core Workbook) Technical Name ZR_RCS_CA_M14 ZR_RCS_CA_M14 ZR_RCS_CA_M14 ZR_RCS_CA_M14 ZR_RCS_CA_M14 ZR_RCS_CA_M14 ZR_RCS_CA_M14 BW_WBK_QM_0015 BW_WBK_QM_0016 BW_WBK_QM_0017 BW_WBK_QM_0013 BW_WBK_QM_0007

1. BW - MiniCus_VB (Core workbook)

BW Server	WBP
Application	QM - Quality Management
Query Name	BW - MiniCus_VB (Core workbook)
Query Technical Name	BW_WBK_QM_00
Core/Specific Scope	Core
Specific Reason	
Provider Name	MVQM01
Usage type	Direct execution from Analysis as interface for MiniTab
Expected users	Quality Manager, Quality Lab. Manager, Process Manager

Purpose of this query

This report display detailed results by material, with usage decision or by shipments. Detailed analysis by characteristic / material is possible
Result can be transfer to **Minitab** tool for statistical purpose

Variables screen

On BW :

Variable Name	Authorization Object	Description
Plant	Yes	
Actual goods issue date	No	Select a period range

Invites

Utiliser variante *Sél. une variante ou entrez un nom puis sauvegardez-le pour créer une nouv. var. utilisateur*

Synthèse invite

- * Actual goods issue date (Inter
- Ship-to party:
- Material (Select option, Option
- MRP controller (Selection Opti
- Dest. Shipping point (Select op
- Inspection Lot (Select option,
- Inspection Lot Origin (Selectio
- Attribut Res. (Glob) (Select Opt
- Origin of Results Data (Glob) (
- Key Date (Selection Option, O

Spécifier valeur pour invites

* Actual goods issue date (Interval, Req

Ship-to party =

Material (Select option, Option =

MRP controller (Selection Opti =

Dest. Shipping point (Select op =

Inspection Lot (Select option, =

Inspection Lot Origin (Selectio =

Attribut Res. (Glob) (Select Op =

Afficher

OK Interrompre

2. BW - MiniTab_VB (Core workbook)

Basic Information

BW Server	WBP
Application	QM - Quality Management
Query Name	BW - MiniTab_VB (Core workbook)
Query Technical Name	BW_WBK_QM_0017
Core/Specific Scope	Core
Specific Reason	
Provider Name	MVQM01
Usage type	Direct execution from Analysis as interface for MiniTab
Expected users	Quality Manager, Quality Lab. Manager, Process Manager

Purpose of this query

This report display detailed results by material, with usage decision or by shipments. Detailed analysis by characteristic / material is possible
Result can be transfer to **Minitab** tool for statistical purpose

Variables screen

On BW :

Variable Name	Authorization Object	Description
Plant	Yes	
Date of lot creation	No	For select a period, change “=” to “[]”

Invites

Utiliser variante

Synthèse invite

Spécifier valeur pour invites

Date of lot creation (Select Opti) = 18.09.2014

Material (Select option, Option) =

Vendor (Select Option, Option) =

MRP controller (Selection Opti) =

Batch (Selection Option, Optio) =

Operation (Single Value, Optio) =

Inspection Lot (Select option, =

Inspection Lot Origin (Selectio =

Insp Start Date QM Lot (Select =

Insp Start Dat- Glob (Select Op =

Afficher

OK

Interrompre

To add line

List of value

* Mandatory values

3. BW - QM Results

Basic Information

BW Server	WBP
Application	QM - Quality Management
Query Name	BW - QM Results (Core Workbook)
Query Technical Name	BW_WBK_QM_0003
Core/Specific Scope	Core
Specific Reason	
Provider Name	
Usage type	Direct Execution in Analysis
Expected users	Process Manager, Quality Lab. Manager, Production Manager

Document type : Indicator file	
Reference : QM Results	Page : 1 on 1
BW - QM Results (Core Query)	BW_QRY_ODS_QM09_0004
Definition	Query's prompt
Limites, Quantitative and qualitative results of the Quality inspections.	Plant (Select Opt, Required) Date of lot creation (Select Option, Optional) Material (Select option, Optional) MRP controller (Select option, Optional) Operation (Single value, Optional) Inspection Lot (Select option, Optional) Insp Start Date QM Lot (Select Option, Optional) Insp Start Dat- Glob (Select Option, Optional) End date of insp (Select Option, Optional) Date Usage Decision (Select Option, Optional) Task list group (Select. option, Optional) Insp. chart text (Select Option, Optional) Date of Manufacture (Select Option, Optional) Key Date (Interval / Optional)

Prompts for BW - QM Results (Core Query)

Use Variant  

Prompt Summary

Search variables...

- Batch (Selection Option, Optional): 
- Date of lot creation (Select Option, Optional): 
- Material (Select option, Optional): 
- Vendor (Select Option, Optional): 
- MRP controller (Selection Option, Optional): 
- Operation (Single Value, Optional): 
- Inspection Lot (Select option, Optional): 
- Inspection Lot Origin (Selection Option, Opti): 
- Insp Start Date QM Lot (Select Option, Optio): 
- Insp Start Dat- Glob (Select Option, Optional): 
- End date of insp (Select Option, Optional): 

Display  Clear All

Specify Value for Prompts

Batch (Selection Option, Optional)	=					
Date of lot creation (Select Option, Optional)	=					
Material (Select option, Optional)	=					
Vendor (Select Option, Optional)	=					
MRP controller (Selection Option, Optional)	=					
Operation (Single Value, Optional)						
Inspection Lot (Select option, Optional)	=					
Inspection Lot Origin (Selection Option, Optional)	=					
Insp Start Date QM Lot (Select Option, Optional)	=					

OK Cancel

4.0 Functional Specification

4.1 General Data/Calculations

This section will approach the concepts/definitions that will be used in all the reports and required to understand the data from the reports.

Could be specific fields, closing activities, additional information to work and understand the reports.

4.2 Process Detail

4.2.1. Report/Process Definition

Domain	<insert name>
Application	>insert name>
Provider	<insert name>
Existing Documentation	<insert link>

This section represents the process with detail information for the application. Can include specific or special cases, complex logics , calculations, flows, among others.

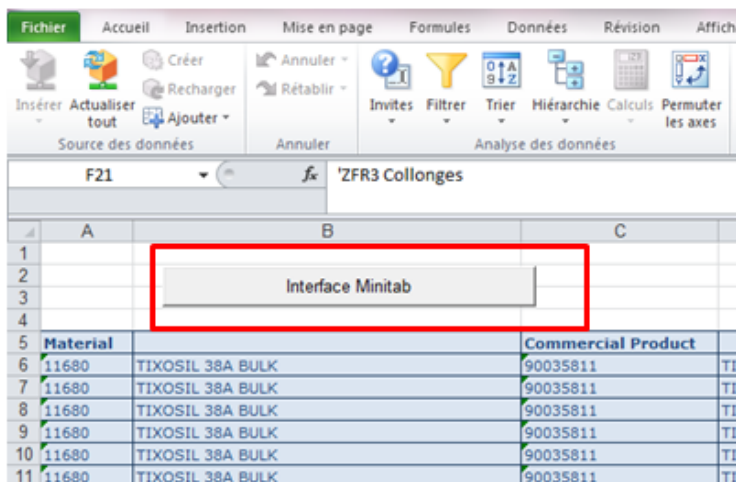
Basic Information

BW Server	WBP
Application	QM - Quality Management
Query Name	BW - QM Results (Core Workbook)
Query Technical Name	BW_WBK_QM_0003
Core/Specific Scope	Core
Specific Reason	
Provider Name	
Usage type	Direct Execution in Analysis
Expected users	Process Manager, Quality Lab. Manager, Production Manager

1. BW - MiniCus_VB (Core workbook)

MINITAB INTERACTION

1/ Click on "Interface Minitab"Interface with MiniTab



2/ Complete the selection screen:

Choice of materials

Product

Name	Nbr Batch
TXOSIL 38	14
TXOSIL 38A	38
TXOSIL 38AB	11
TXOSIL 38X	9
TXOSIL 43	20
TXOSIL 63	16
TXOSIL 68	2
TXOSIL 73	11
TXOSIL SOFTCLEAN	3
ZEOSIL 1085 GR	10
ZEOSIL 1119MP	7
ZEOSIL 1169MP	215
ZEOSIL 45	1
ZEOSIL HRS 1200MP	1
ZEOSIL PREMIUM 200MP	37

Customer / Material

Customer Filter :

Customer	Customer code	Material Name	Material code	Quantity delivered
☐ BRIDGESTONE POZHAN SP. Z O.O.	2022530	ZEOSIL PREMIUM 200MP BB 750KG/PLAST PAL	121434	72
☐ BRISA BRIDGESTONE SABANCI LASTIK	2020569	ZEOSIL PREMIUM 200MP BB 750KG /WOOD PAL	118536	33
☒ GOODYEAR DUNLOP SAVA TIRES D.O.O.	57388	ZEOSIL PREMIUM 200MP BULK	86735	15650
☒ GOODYEAR DUNLOP TIRES AMIENS SUD	2016462	ZEOSIL PREMIUM 200MP BB 750KG/PLAST PAL	121434	36000
☒ GOODYEAR GREAT BRITAIN LTD	66808	ZEOSIL PREMIUM 200MP BULK	86735	15,9
☒ GOODYEAR LASTIKLERI TURK A.S.	2026620	ZEOSIL PREMIUM 200MP BB 750KG /WOOD PAL	118536	33000
☐ POLYMER -TECHNIK ELBE GMBH	85700	ZEOSIL PREMIUM 200MP BULK	86735	161680
☐ RHODIA OPERATIONS C/O GOODYEAR	82784	ZEOSIL PREMIUM 200MP BULK	86735	79820

KG Sent: 84666 Deliveries: 6 Batches: 8

Characteristic

Name	Code	Nbr results
☐ Perte au feu à 1000°C	0151/KC000011	11
☐ pH (sol aq. 5%)	0151/KC000005	11
☐ Pore Hg Penetrating Vol	7622/KC000822	11
☒ Refus tamis à ser. 75µm	0151/KC000027	11
☐ Sels solubles	0151/KC000013	5
☐ Sels solubles (en Na2SO4)	0151/KC000013	6
☐ Silice / anhydride	0151/KC000014	7

Number of characteristic selected : 1

These characteristics appear several times with different names

☐ Grouping by reference

Chart

☐ Delivery date ☒ Batch

Capability

☐ Delivery date ☒ Batch

3/ Select :

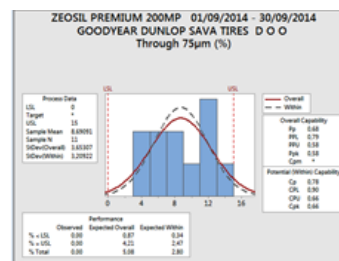
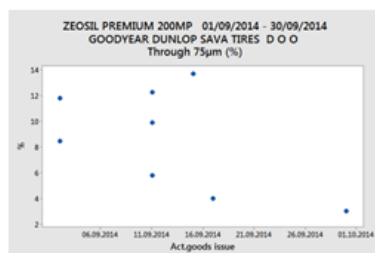
- Product
- Materials
- Characteristic
- **Choose a Chart and a Capability type** (Delivery date or Batch)

4/ Click on "Minitab export"

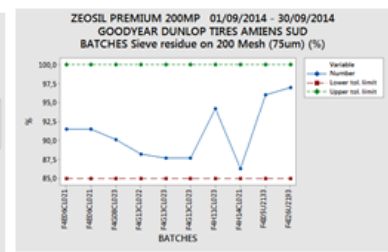
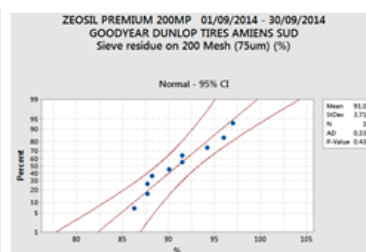
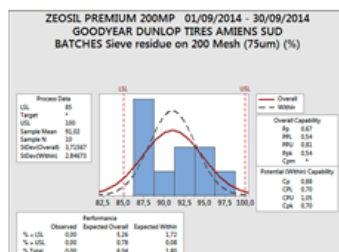
5/ You can follow the progress of the extraction at the bottom of the screen

6/ MiniTab will open automatically  . You'll get 5 graphs

Delivery date



Batch

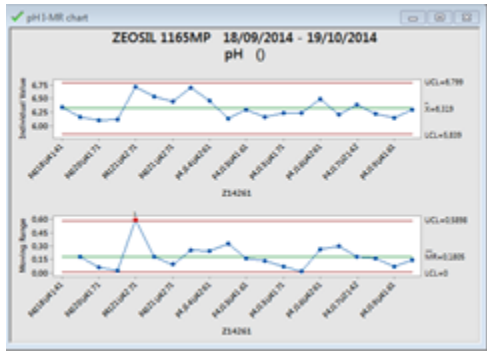


Glossary of statistical data

I-MR Chart

- Individual Value = Control Chart

- Moving range = interval between 2 values

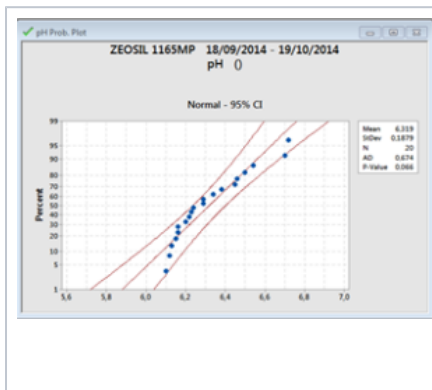


Capability indices



Cp	Potential level of performance that your process obtain, if all special causes were eliminated. ($> 1,33$)
Pp	Actual capability of your process, or how your process is actually performing relative to the specification limits. ($> 1,33$)
CPL	Measures how close the process mean is running to the lower specification limit.
CPU	Measures how close the process mean is running to the upper specification limit.
Cpk	Equals the lesser of CPU and CPL.

Probability Plot



Points	Estimated percentiles for corresponding probabilities of an ordered data set.
Middle lines	The expected percentile from the distribution based on maximum likelihood parameter estimates. If the distribution is a good fit for the data, the points are close to the middle line.
Left lines and right lines	Formed by connecting the lower bounds of the confidence intervals for the percentiles. Similarly, the right line is formed by connecting the upper bounds of the confidence intervals for the percentiles. If a distribution is a good fit, the points fall within these bounds.
Anderson-Darling test statistics with corresponding p-values	Use to assess whether your data follow the specified distribution.

2. BW - MiniTab_VB (Core workbook) Interaction with Minitab

1/ Click on "Interface Minitab"Interface with MiniTab

Fichier Accueil Insertion Mise en page Formules Données Révision Affichage				
Insérer Actualiser tout Ajouter Source des données Annuler Rétablir Inviter Filtrer Trier Hiérarchie Calculs Permuter les axes Analyse des données				
F21 ZFR3 Collonges				
	A	B	C	
1				
2				
3				
4				
5	Material		Commercial Product	
6	11680	TIXOSIL 38A BULK	90035811	TI
7	11680	TIXOSIL 38A BULK	90035811	TI
8	11680	TIXOSIL 38A BULK	90035811	TI
9	11680	TIXOSIL 38A BULK	90035811	TI
10	11680	TIXOSIL 38A BULK	90035811	TI
11	11680	TIXOSIL 38A BULK	90035811	TI

2/ Complete the selection screen:

Choice of material

Product

Name	Nbr Batch
TIXOSIL 38AB	11
TIXOSIL 38X	5
TIXOSIL 43	21
TIXOSIL 63	26
TIXOSIL 68	1
TIXOSIL 68S	2
TIXOSIL 73	6
ZEOSIL 1085	4
ZEOSIL 1085 GR	11
ZEOSIL 1165MP	213
ZEOSIL 165GR	1
ZEOSIL PREMIUM 200MP	63
	0

Material

Name	Code	Nbr Batch
☐ SILICA Z1165MP FOR PACK. BULK	84120	9
☐ ZEOSIL 1165MP BB 700 KG / PLAST PAL	101445	1
☐ ZEOSIL 1165MP BB 700 KG / WOOD PAL	55271	13
☐ ZEOSIL 1165MP BB 750KG / PLAST PAL	121520	1
☐ ZEOSIL 1165MP BB 800 KG / PLAST PAL	107272	6
☐ ZEOSIL 1165MP BB 800 KG / WOOD PAL	107270	16
☒ ZEOSIL 1165MP BULK	11830	168
☐ ZEOSIL 1165MP PAL 600KG SAC EXP. 25KG	11818	1

Characteristic

Name	Code	Nbr results
☐ Fd/produit transfert	0151/IP000024	8
☐ H2O LECO/produit transfert	0151/IP000026	19
☐ PAF/bac ato	0151/IP000039	12
☐ PAF/déliteur 1	0151/IP000040	11
☐ PAF/déliteur 2	0151/IP000041	11
☐ PAF/produit transfert	0151/IP000043	6
☒ pH/bac ato	0151/IP000051	21
☐ PH/déliteur 1	0151/IP000052	20
☐ PH/déliteur 2	0151/IP000053	22

Number of selected characteristics : 1

The following characteristics appear several times with different names.

☐ Grouping by code

3/ Select :

- Product
- Materials
- Characteristic

4/ Click on "Minitab export"

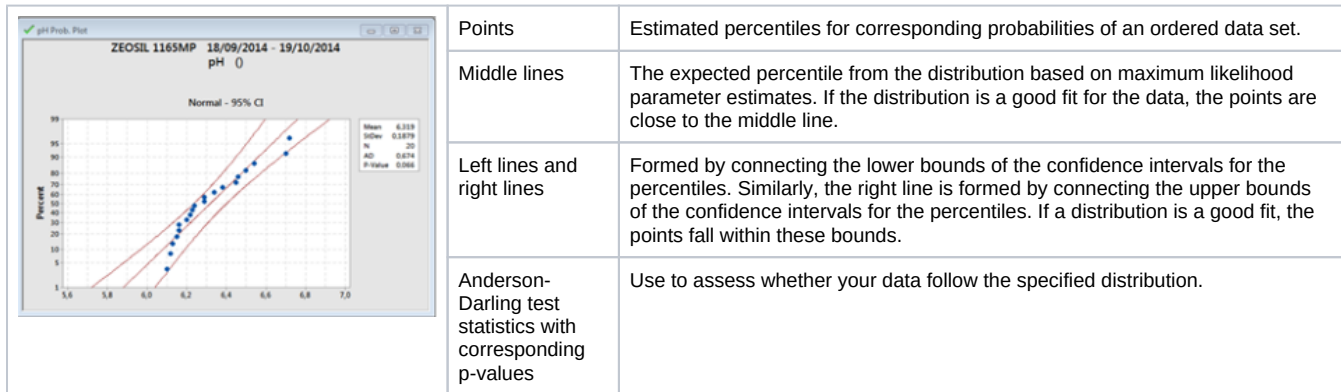
Remark : you are limited to 39 characteristics.

5/ You can follow the progress of the extraction at the bottom of the screen

6/ MiniTab will open automatically  . You'll get 5 graphs

Cp	Potential level of performance that your process obtain, if all special causes were eliminated. ($> 1,33$)
Pp	Actual capability of your process, or how your process is actually performing relative to the specification limits. ($> 1,33$)
CPL	Measures how close the process mean is running to the lower specification limit.
CPU	Measures how close the process mean is running to the upper specification limit.
Cpk	Equals the lesser of CPU and CPL.

Probability Plot



5.0 Non-functional Descriptions

Please populate the relevant section and delete those that are not applicable.

5.1 Usability

Usability is about the ease with which a User can learn to start using the solution and the ease with which they can use the system. In addition to ease of learning and ease of use, usability also includes areas such as ease of recall, error avoidance and handling, accessibility among others e.g., 99% of metadata entry Users who have use the Maintenance Dashboard should be able to change filters, extract etc., when required. Maintenance data will be centrally stored in the Google Cloud platform, which will be available to other applications e.g., and Dashboards if needed.

5.2 Regulatory Compliance

Software systems must comply with legal and regulatory e.g., GDPR requirements, this can change depending on country, organisation industry and / or region. The software systems must be secure from unauthorized access. The Maintenance Dashboard will comply with Solvay's regulations and compliance e.g., access only granted to authorized Users.

5.3 Security

Security refers to essential aspects that assure a solution and its components will be protected against unauthorized access or malware attacks. Important considerations related to security aspects of a system are User authentication, User authorization or User access privileges, data theft, malware attacks, data encryption, and maintaining audit trails, e.g., only Users with administrator access shall be able to create new accounts and assign data access privileges to the new accounts e.g.,

- All data will be encrypted in the dashboard
- Only authorised Users / Administrative Users will be able to access data.
- Maintenance data will be split between either SCO or ECO, and Users will only have authority to one Entity data.

5.4 Performance

Performance defines how fast a software system or a particular section of it responds to certain User actions under a certain workload. In most cases, this metric explains how long a User must wait before the target operation happens e.g., the page renders, a transaction is processed, etc., given the overall number of Users now. Performance requirements may describe background processes invisible to Users, e.g., backup and speed of data transfers.

5.5 Reliability

Reliability is the ability of a solution or its component to perform its required functions without failure under predefined conditions for a specified time / period. Reliability can possibly be specified in terms of average time system runs before failure occurs, percentage of operations completed successfully within a time / period, maximum acceptable failure probability, or number of failures within a period. Reliability aspects are in reference to (but not limited to) evaluation of the system to be considered as reliable, classification of reliability defining failures vs. regular failures, and the impact of failure on business operations. The Maintenance Dashboard will display data from the previous refresh of data.

5.6 Scalability

Scalability refers to the degree to which a solution can evolve to handle increased amounts of work. The increased amount of work could be in terms of the user base, transactions, data, network traffic, or other factors e.g., the system should be able to handle an additional load of a maximum of 5,000 Users every month for the next 6 months without any noticeable performance impacts.

5.7 Compatibility

Interoperability is the degree to which the solution is compatible with other components. It is a measure of how effectively the system interoperates with other software systems and how easily it integrates with external hardware devices.

Interoperability aspects to be discussed during elicitation are in reference to (but not limited to) software systems to be interfaced with along with data / messages to be exchanged and any standard data formats, hardware components to be integrated with, and any standard communication protocols to be followed e.g., Order Management system will push the order file into a secured file transfer protocol server from where it will be loaded into the system through a daily job. To guarantee between Google Cloud platform and SAP BW Queries e.g., BW_QRY_MVPMOR01_0002, Solvay has introduced a new tool called Xtract ([Xtract](#)).

5.8 Availability

Availability is the degree to which the solution is operable and accessible when required. It is a measure of time during which the system is fully operational e.g., available for use and sometimes included as a Service Level Agreement (SLA) considering its criticality to the business, e.g., the system shall be at least 99% available on weekdays between 09:00 to 18:30 Central European Time (CET).

5.9 Refresh of the Data

Frequency, data, and time of the data refresh in the data product.